OCTOBER 1978
No. 10

FISHING INFORMATION

Southwest Fisheries Center-La Jolla, California

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SOUTHWEST FISHERIES CENTER
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LA JOLLA, CALIFORNIA 92037

FISHING INFORMATION

OCTOBER 1978, No. 10

EDITOR: JAMES A. RENNER

I. Barrett, Director, SOUTHWEST FISHERIES CENTER
J. Carr, Deputy Director

PREFACE

This publication, Fishing Information, appears monthly and contains 1) fishery advisory information, 2) a narrative description of pertinent surface temperature conditions, 3) charts of winds and pressures for the eastern North Pacific, 4) charts of sea surface temperature for the North Pacific and eastern tropical Pacific, and 5) charts of subsurface temperature structure in the eastern North Pacific.

A supplement to Fishing Information appears at 15-day intervals throughout the year. It contains a chart of sea surface temperature (contoured at 2°F (1°C) intervals) from Baja California to Vancouver Island out to about 135°W. Special bulletins are published in conjunction with the 15-day sea surface temperature charts which include short-term projections of albacore distribution and locations of productive fishing areas, information on oceanographic and atmospheric conditions, and other information as is appropriate during the albacore fishing season.

To cancel delivery of this publication in the event you no longer need to receive it, or to change the delivery address if you are moving but still need to receive it, please notify us by writing: James A. Renner, Editor, Fishing Information, National Marine Fisheries Service, Southwest Fisheries Center, P. O. Box 271, La Jolla, California 92038.

Submitted for publication - November 30, 1978

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ENVIRONMENTAL CHARTS ANALYZED BY:

F. Miller (Figures 8 and 9)
J. Renner (Figures 1, 2, 3, 4, 5, 6, 7, and 15 day supplement)

TECHNICAL EDITOR:
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National Ocean Survey, Pacific Marine Center, Seattle, Washington

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J. Redhead at Langara Island Light; C. Hilliar at Cape St. James Light;
L. Collins at Kains Island Light; M. V. Stewart at
Amphitrite Point Light

Scripps Institution of Oceanography, La Jolla, California

Expendable bathythermograph and salinity observations are made by the mates and engineers of the *Californian* of the Matson Navigation Co. The data are processed under supervision of D. R. McLain at the NMFS Pacific Environmental Group, Monterey, California, using computer facilities of the Fleet Numerical Weather Central, Monterey. The project is partially supported by the National Science Foundation and the Office of Naval Research.

Sea Surface Temperature and Environmental Conditions

Forrest R. Miller

Eastern North Pacific

During October sea surface temperatures (SST) normally decrease 1 to 2°C over most of the north Pacific. However, the rate of cooling in the surface layers of the ocean varies according to the locations and intensities of the Aleutian low and eastern Pacific high pressure systems. During October,, frontal systems usually develop in the central Pacific with the low pressure center intensifying north of 40°N and along the southern periphery of the Aleutian low. The weather fronts move rapidly toward the U.S. west coast and are accompanied by wide bands of heavy cloud cover and high winds which generate rough seas and extensive mixing in the ocean surface layers. The Aleutian low is normally located near 57°N, 150°W and the Pacific subtropical high near 33°N, 137°W in October (Figure 1).

During October 1978 the Aleutian low was displaced southwestward and the subtropical high pressure system northward about 300 NM with a weak ridge of high pressure extending over Washington and southern British Columbia (Figure 2). Surface pressures were 4 to 6 millibars above normal east of 140°W between 45°N and 55°N. West of 140°W and north of 35°N surface winds were more southerly than normal as a result of the displacements in the Aleutian low and the subtropical high pressure centers. From the U.S. west coast to 140°W the prevailing surface winds were northerly and wind speeds were below normal, especially along the eastern edge of the high pressure ridge north of 30°N. Weather fronts developed in the central Pacific between 35°N and 45°N and moved eastward across British Columbia, Washington and Oregon. Extensive ocean mixing occurred west of 145°W where surface winds were strongest between the Aleutian low and the subtropical high pressure systems (Figure 2).

The SST pattern (Figure 3) reflected a less than normal rate of cooling between 130°W and 140°W where SST contours bulged northward. Above normal SST's developed along the coast of Washington and off the U.S. west coast (Figure 5) where the subtropical high pressure ridge was the dominant feature. Most of the above normal SST's in the eastern Pacific were 0.5 to 1°C warmer in October 1978 than in October 1977 (Figure 7). Along the coast of central California where wind mixing and upwelling prevailed, SST's were colder than a year ago and were more than 1°C below normal along the coast in waters colder than 15°C. Elongated east-west bands of SST's more than 1°C below normal (Figure 5) developed west of 150°W between 30°N and 45°N where weather fronts and high winds caused frequent rough seas and considerable wind mixing in the surface layer of the ocean. Part of this area, between 40°N and 45°N, was 1 to 2°C colder than in October 1977 when the Aleutian low and high pressure systems were near their normal positions. If the Aleutian low remains displaced to the west of its normal position during November 1978, it is probable that the positive SST departures will increase between 130°W and 145°W, and the area covered by negative departures west of 150°W will increase. South of 25°N between Baja California and 155°W the large area covered by positive SST departures has expanded since September 1978. The northward displacement of the subtropical high pressure center, a decrease in trade winds south of 25°N and the high frequency of tropical storm penetration north of 20°N from August through October between Hawaii and Baja California contributed to the development of above normal SST's. This area of positive departures is the last significant area of above normal SST's remaining in the eastern tropical and subtropical Pacific.

Western North Pacific

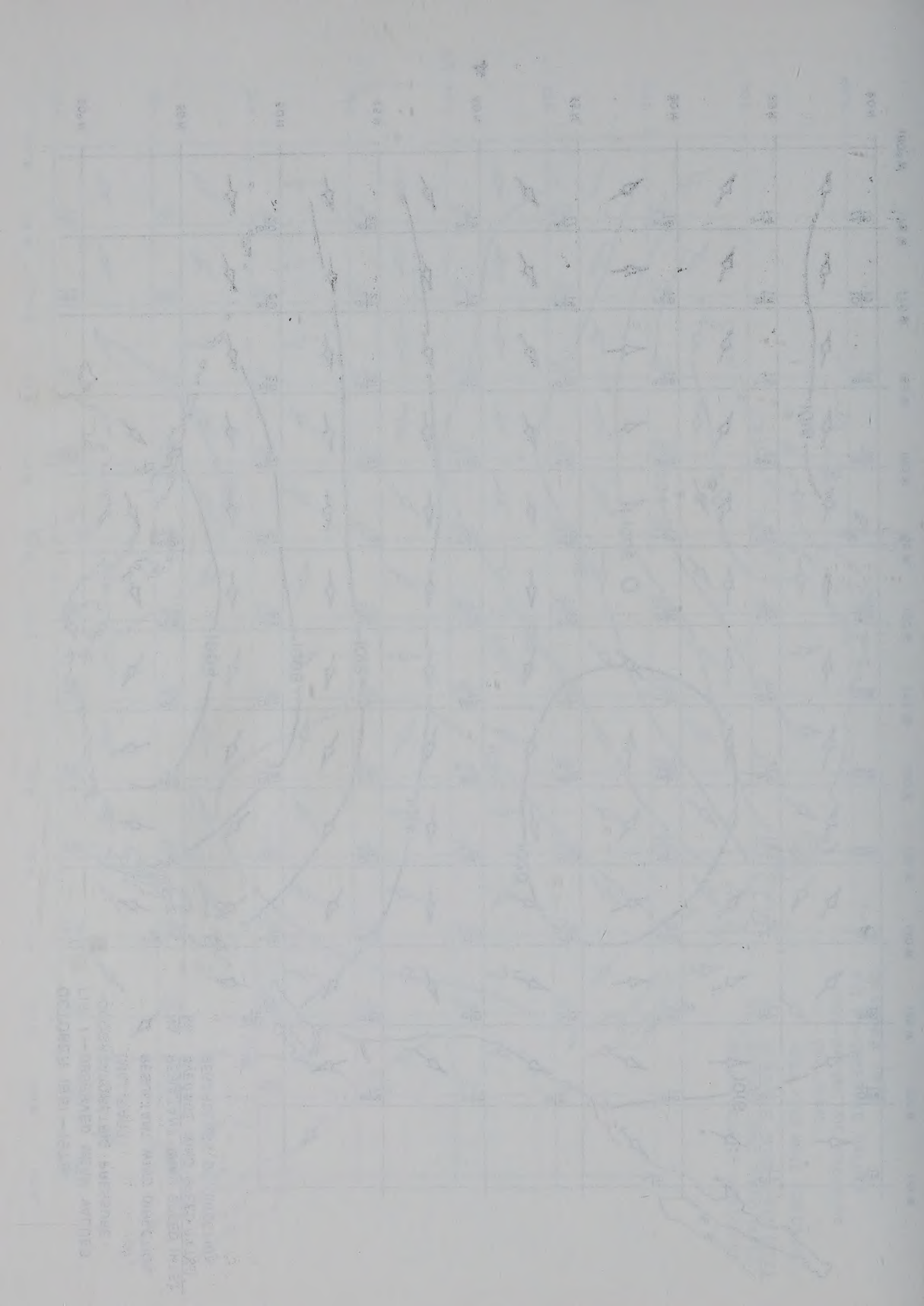
During October the western Pacific north of 40°N was under the influence of the westward extension of the Aleutian low pressure system. The western Pacific high pressure system appeared to be weaker than normal between 25°N and 40°N, and the tropical easterly surface winds south of 25°N were a dominant feature west of 170°E. The most pronounced feature in the SST pattern (Figure 4) was the north Pacific ocean front which was centered between 38°N and 41°N. At several points along the front there were negative SST departures more than 1°C from normal. This occurred along 40°N east of Japan where storm centers and heavy seas intensified the ocean front. From 30°N to 35°N east of 160°E, SST's were more than 1°C below normal in several places due to strong wind mixing from passing weather fronts which extended southward from the storm centers at 40°N. As a result of frequent storm development west of 175°E since September, there has been a gradual expansion of the area covered by negative SST departures from normal over most of the western Pacific between 25°N and 40°N.

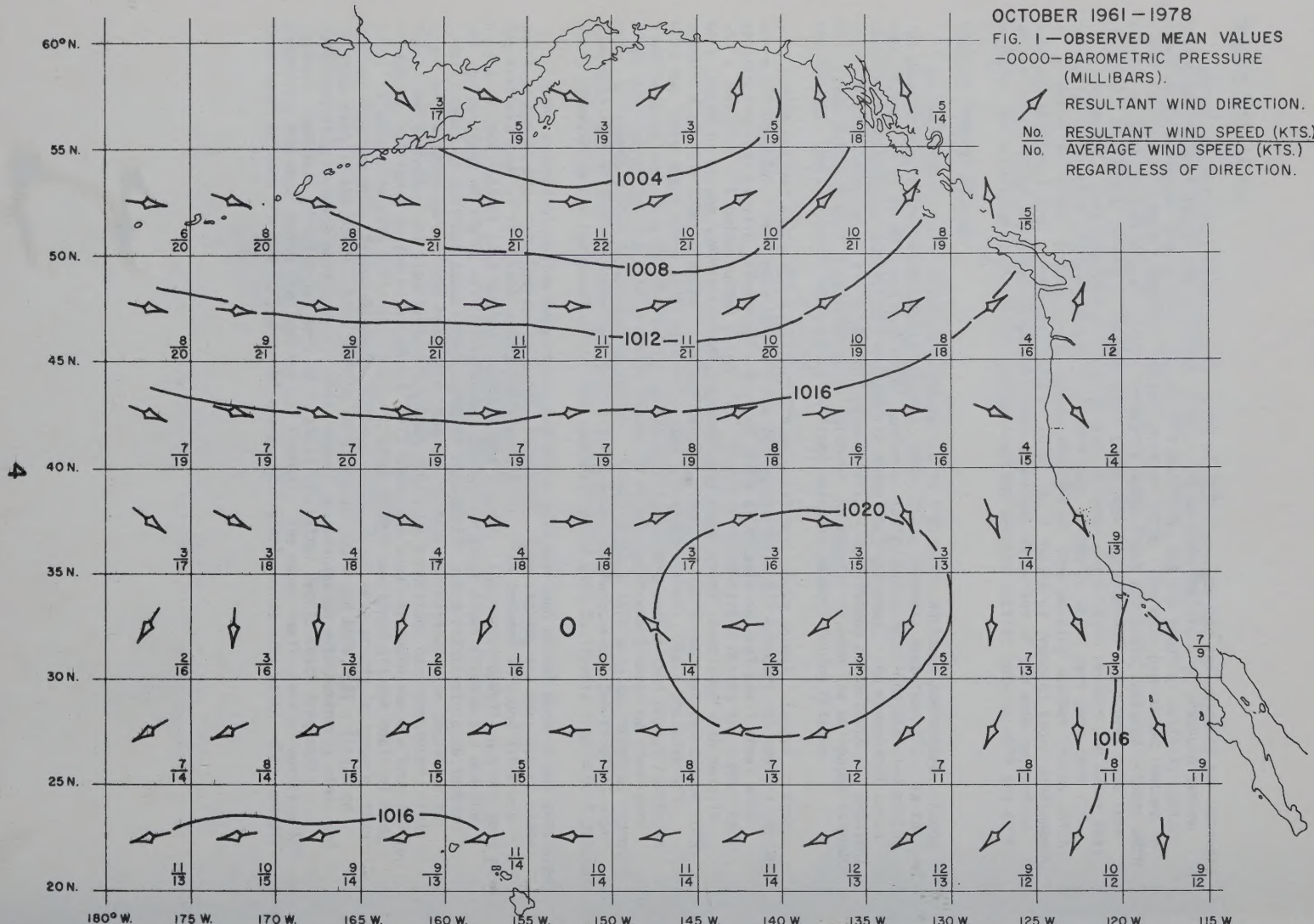
Eastern Tropical Pacific

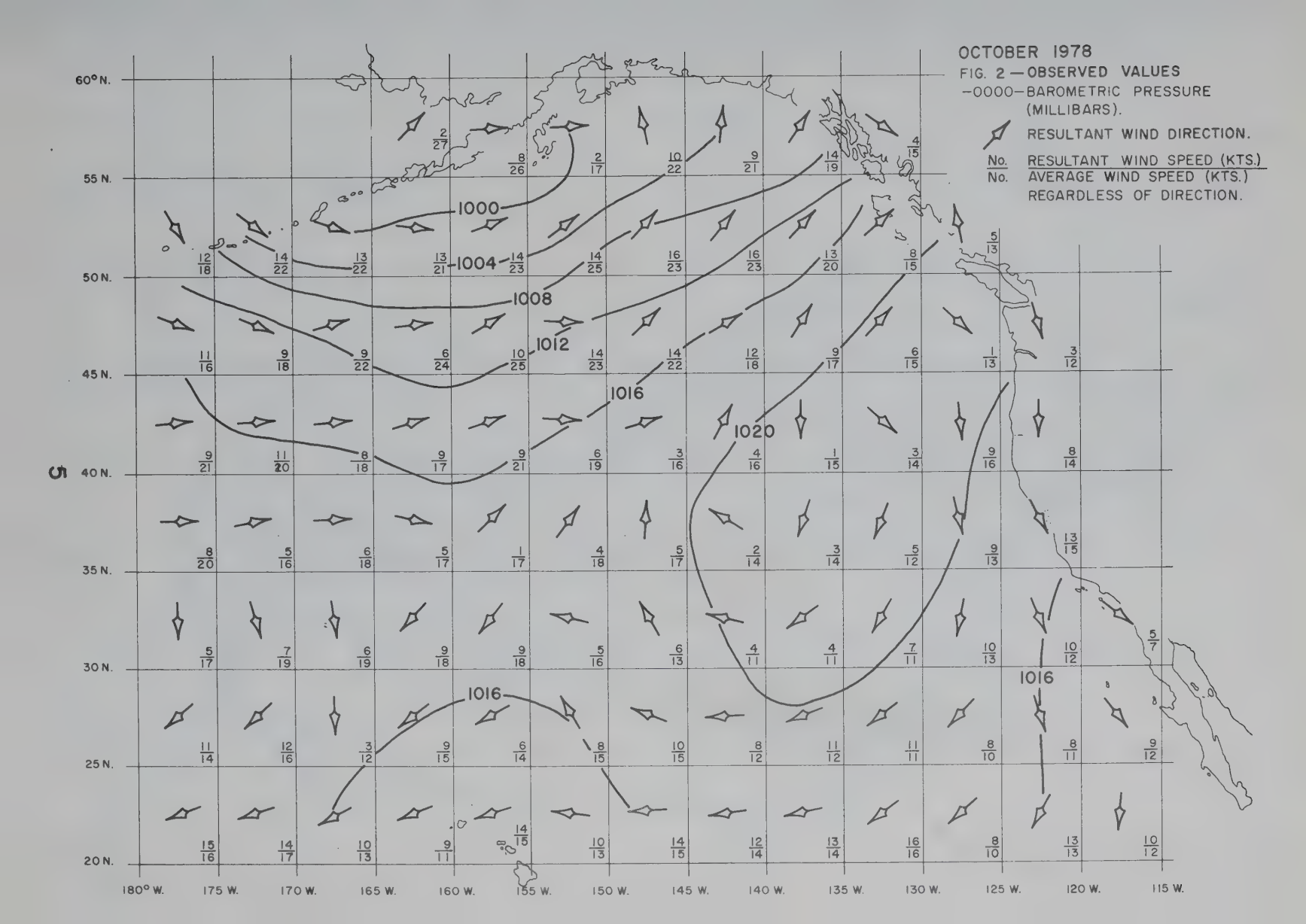
During October, SST's normally decrease 0.5 to 1°C in the northern hemisphere. Along the equator and in the southern hemisphere to 20°S, SST's increase less than 1°C. In the Peru Current north of 30°S and along the equator to 150°W, ocean upwelling and wind mixing combined with seasonal cooling bring about the annual SST minimums. The equatorial ocean front from the equator to 3°N is normally characterized by a strong north-south SST gradient. This ocean front is most pronounced at or north of the equator between the Galapagos Islands and Ecuador. West of 140°W the equatorial front normally weakens during October.

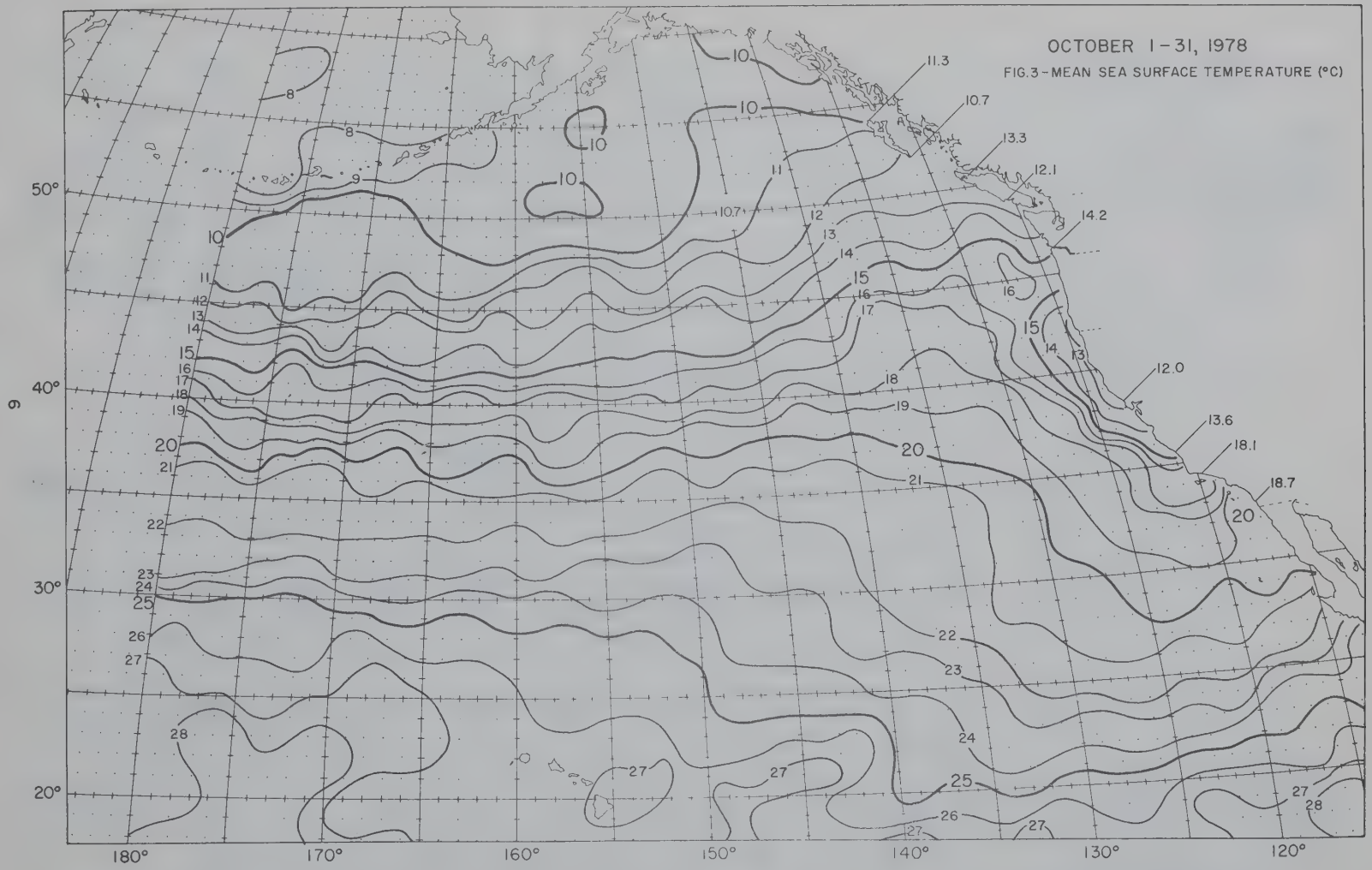
During October 1978, SST's north of 5°N were slightly above normal. Except in areas where SST departures were more than 1°C the configuration of SST contours was typical for the eastern tropical Pacific (Figure 8). East of 100°W there were several small areas with SST's more than 1°C below normal (Figure 9). These areas developed during the summer and were caused by strong surface wind mixing and heavy cloud cover associated with squally weather along the inter-tropical convergence zone. West of 110°W and centered around 20°N were two large areas where SST's were more than 1°C above normal. These positive SST departures between Baja California and Hawaii developed where weaker than normal northeast trade winds persisted and nine tropical storms (4 became hurricanes) moved northwestward from the tropics during August and September. During October 1978 only two tropical storms developed east of 110°W between 10°N and 15°N and moved northwestward. One tropical storm, Rosa, recurved to the northeast across the southern tip of Baja California from 2 to 5 October.

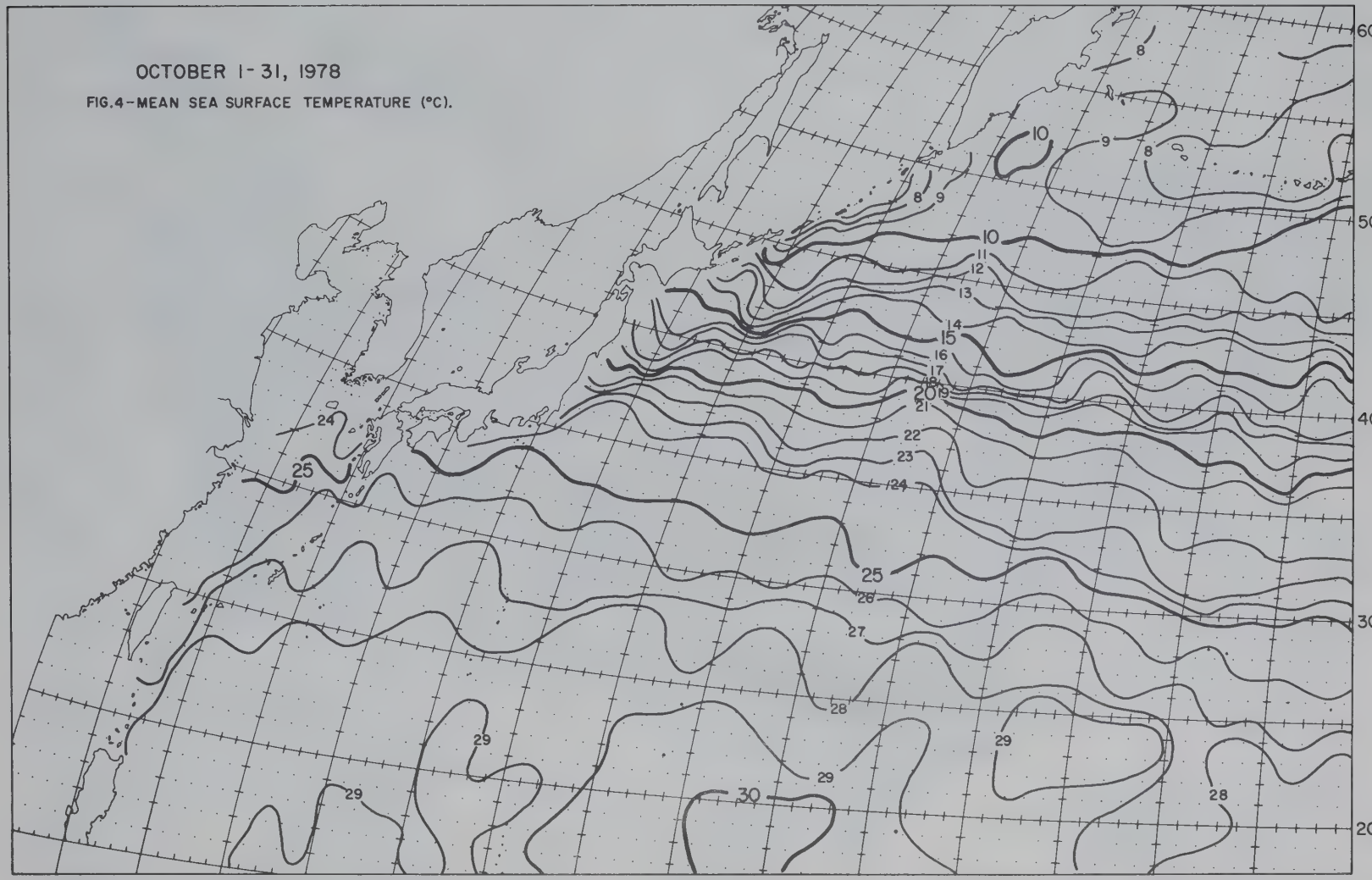
In the equatorial region between 5°N and 5°S a stronger than normal ocean front persisted north of the equator from Ecuador to 140°W (Figure 8). Tuna fishing was very active along the northern edge of the front (where SST's were 25 to 27°C) between 95°W and 115°W and also along the coastal area between Colombia and Ecuador. Equatorial upwelling along most of the equator east of 170°W, with below normal SST's over large areas (Figure 9), was the primary cause of a strong ocean front north of the equator and a relatively cold surface layer over a large part of the equatorial region. Similar conditions also prevailed in August and September and clearly indicate that Anti-Niño conditions have developed. This is further confirmed by the below normal SST's along the coast of South America from 4°S to 10°S. A large area with SST's more than 1°C below normal developed off the coast of Peru between 80°W and 90°W (Figure 9) where southeast trade winds were steady and greater than 15 knots most of the month. From 10°S to 25°S between 100°W and 80°W, SST's (based on scattered ship reports) were 1 to 2°C above normal in association with northerly winds and apparent southward advection of warm water ahead of weather fronts which frequently penetrated the area during the last half of October. The other small areas of positive SST departures between 5°S and 10°S occurred where the easterly winds were weaker than normal.

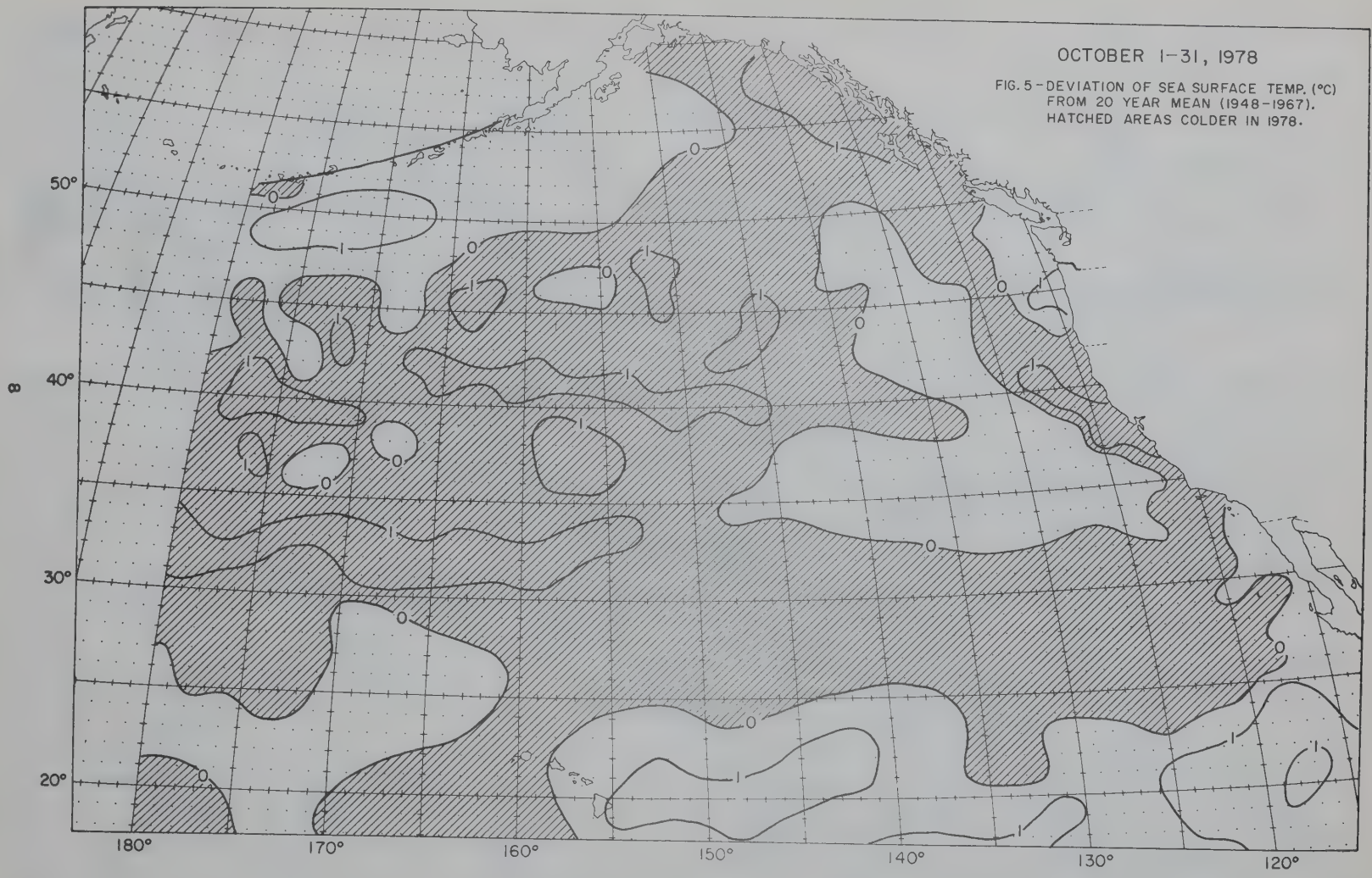


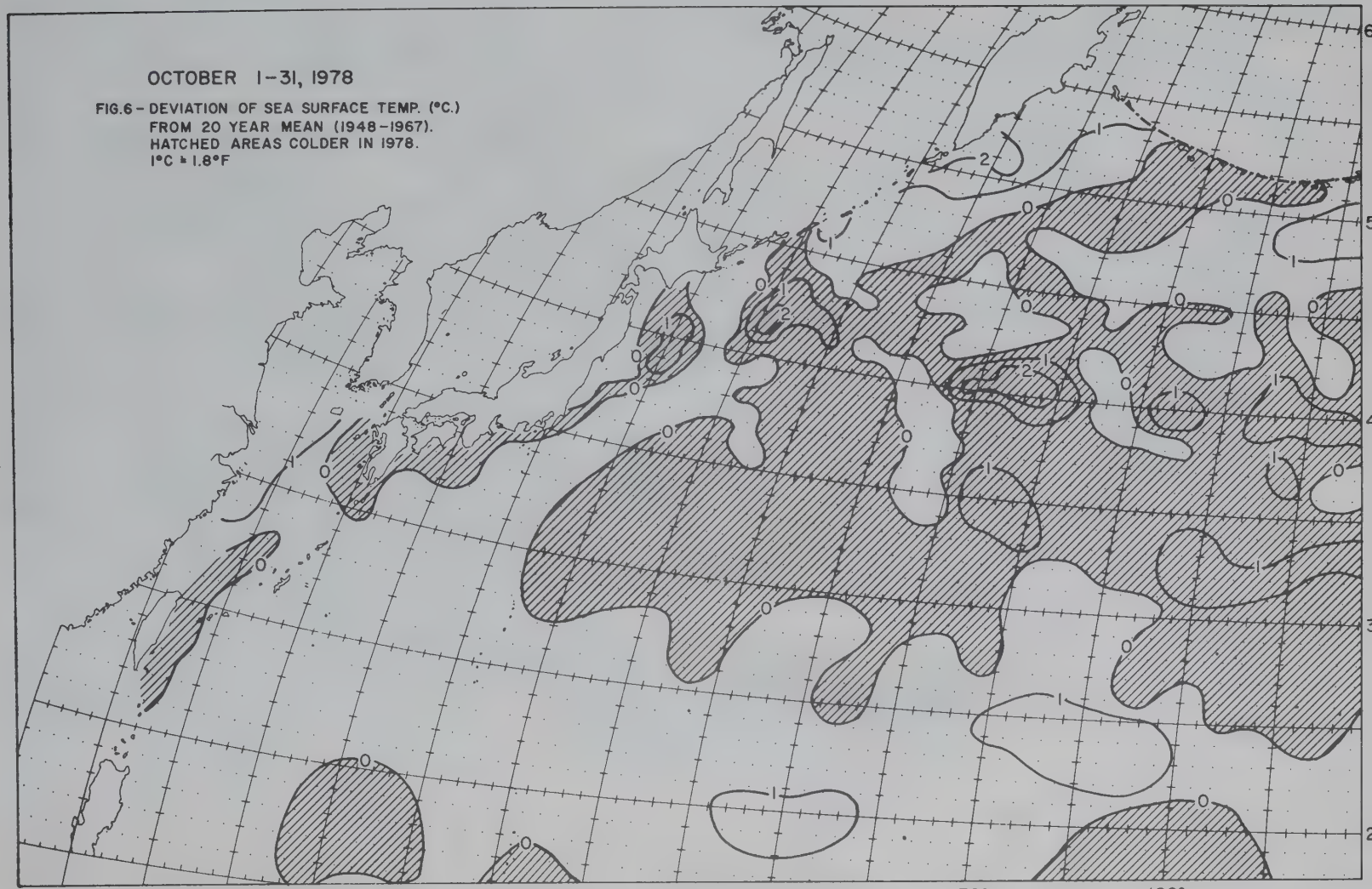

OCTOBER 1961 – 1978
FIG. 1 – OBSERVED MEAN VALUES
–0000– BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.)
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1004
1008
1012
1016
1020
1016
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.

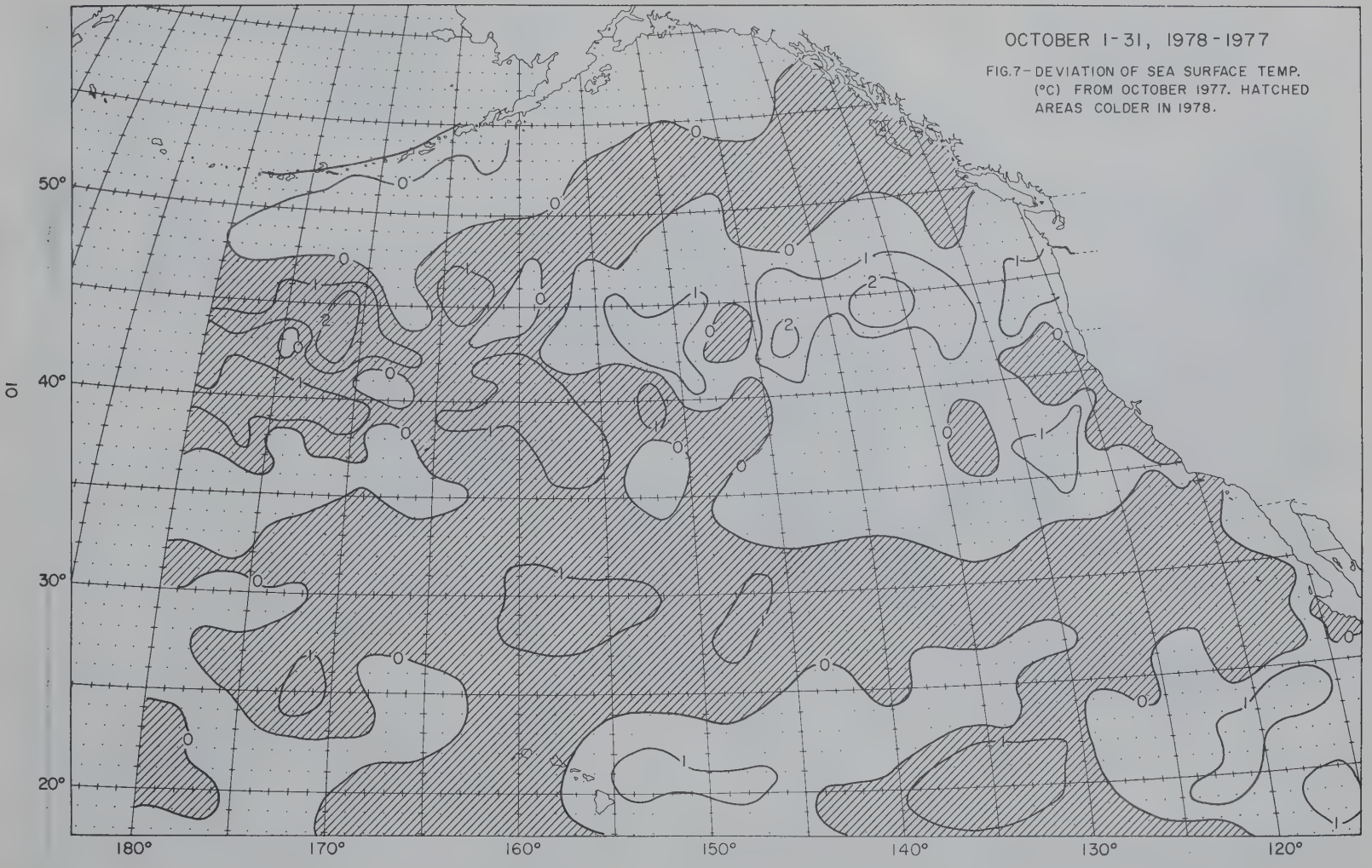

OCTOBER 1978
FIG. 2 — OBSERVED VALUES
-0000- BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.)
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1000
1004
1008
1012
1016
1020
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.

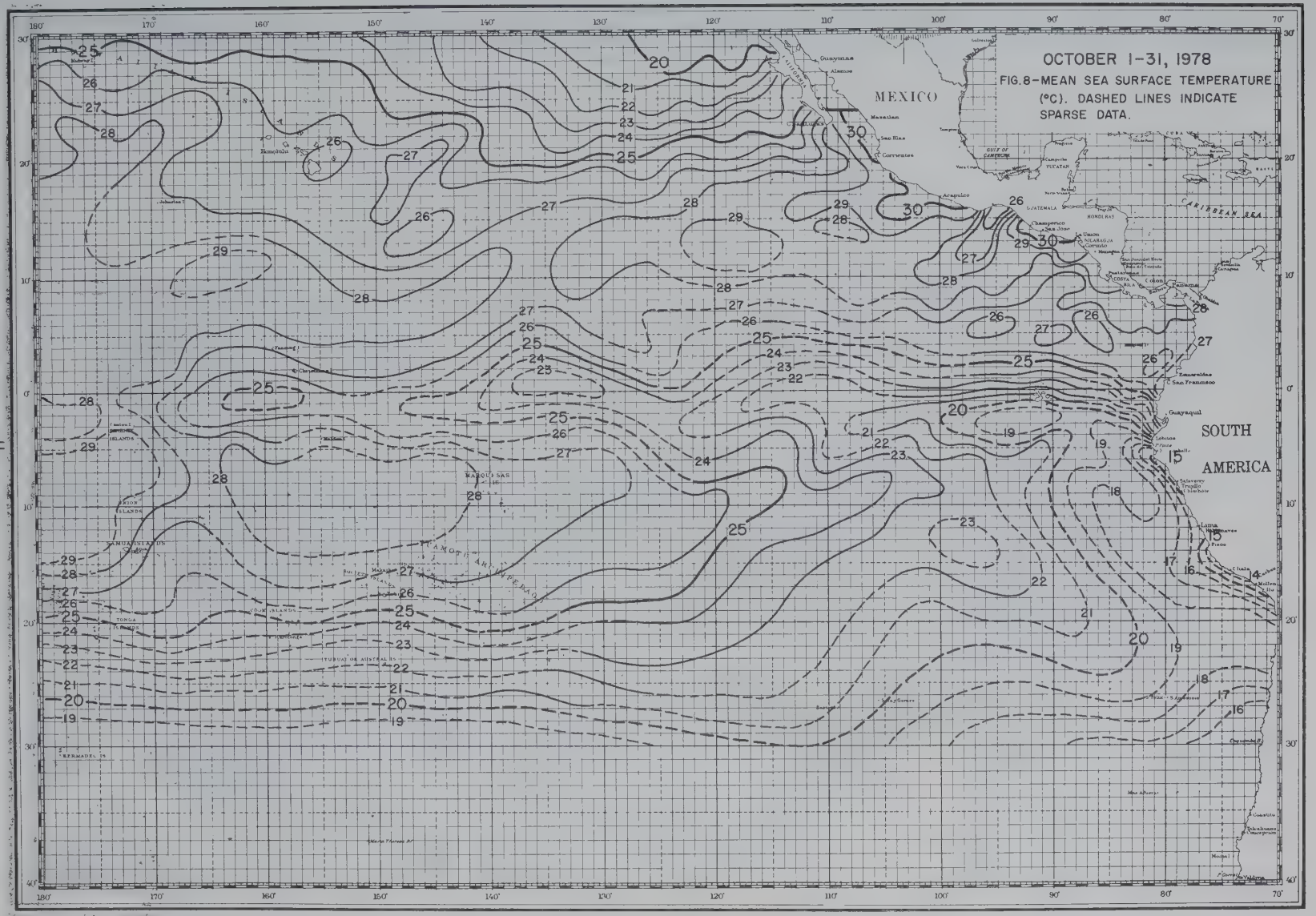

OCTOBER 1-31, 1978
FIG.3-MEAN SEA SURFACE TEMPERATURE (°C)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
11.3
10.7
13.3
12.1
14.2
12.0
13.6
18.1
18.7


OCTOBER 1-31, 1978
FIG.4-MEAN SEA SURFACE TEMPERATURE (°C).
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30


OCTOBER 1-31, 1978
FIG. 5 - DEVIATION OF SEA SURFACE TEMP. (°C) FROM 20 YEAR MEAN (1948-1967). HATCHED AREAS COLDER IN 1978.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
0
1


OCTOBER 1-31, 1978
FIG.6 - DEVIATION OF SEA SURFACE TEMP. (°C.)
FROM 20 YEAR MEAN (1948-1967).
HATCHED AREAS COLDER IN 1978.
1°C = 1.8°F
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°


OCTOBER 1-31, 1978-1977
FIG.7-DEVIATION OF SEA SURFACE TEMP. (°C) FROM OCTOBER 1977. HATCHED AREAS COLDER IN 1978.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


OCTOBER 1-31, 1978
FIG.8-MEAN SEA SURFACE TEMPERATURE (°C). DASHED LINES INDICATE SPARSE DATA.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
Guaymas
Mazatlan
Acapulco
Champerico
Guayaquil
Callao
Lima
Salaverry
Trujillo
Chimbote
Paita
Zorritos
San Francisco
Tumaco
Buenaventura
Malpelo
Cocos Island
Galapagos Islands
Marquesas Islands
Easter Island
Tuamotu Archipelago
Tonga Islands
Society Islands
Tubuai or Austral Is.
Bermuda Is.
Juan Fernandez
Mas Afuera
Mas a Tierra
Valparaiso
Coquimbo
Caldera
Iquique
Arica
Mollendo
Matarani
Chimbote
Pisco
Ilo
Talara
Salinas
Manta
Puerto Vallarta
Manzanillo
Acapulco
Salina Cruz
Puerto Madero
Corinto
Puntarenas
Balboa
Cristobal
Colon
Puerto Limon
Kingston
Port au Prince
Cuba
Jamaica
Haiti
Yucatan
Gulf of Campeche
Veracruz
Tampico
Progreso
Belize
Puerto Barrios
Puerto Cortes
Roatan
Puerto Cabezas
Bluefields
San Juan del Norte
Corn Islands
Providencia
San Andres
Cartagena
Barranquilla
Maracaibo
Puerto Cabello
La Guaira
Curacao
Aruba
Trinidad
Tobago
Barbados
Martinique
Guadeloupe
Antigua
Puerto Rico
Virgin Is.
Bahamas
Bermuda
Hawaiian Is.
Johnston I.
Palmyra I.
Christmas I.
Fanning I.
Canton I.
Enderbury I.
Phoenix Is.
Samoa Is.
Fiji Is.
New Caledonia
Norfolk I.
Lord Howe I.
Kermadec Is.
Auckland Is.
Macquarie I.
Campbell I.
Chatham Is.
Tahiti
Rapa
Pitcairn I.
Gambier Is.
Marquesas Is.
Clipperton I.
Revillagigedo Is.
Socorro I.
Guadalupe I.
Cedros I.
Isla Natividad
Isla Asuncion
Isla Cedros
Isla Guadalupe
Isla Socorro
Isla Clarion
Isla Roca Partida
Isla Isabel
Isla Tres Marias
Isla Magdalena
Isla Cerralvo
Isla Espiritu Santo
Isla Angel de la Guarda
Isla Tiburon
Isla Partida
Isla Coronados
Isla Todos Santos
Isla Benitos
Isla Natividad
Isla Asuncion
Isla Cedros
Isla Guadalupe
Isla Socorro
Isla Clarion
Isla Roca Partida
Isla Isabel
Isla Tres Marias
Isla Magdalena
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Isla Angel de la Guarda
Isla Tiburon
Isla Partida
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Isla Todos Santos
Isla Benitos

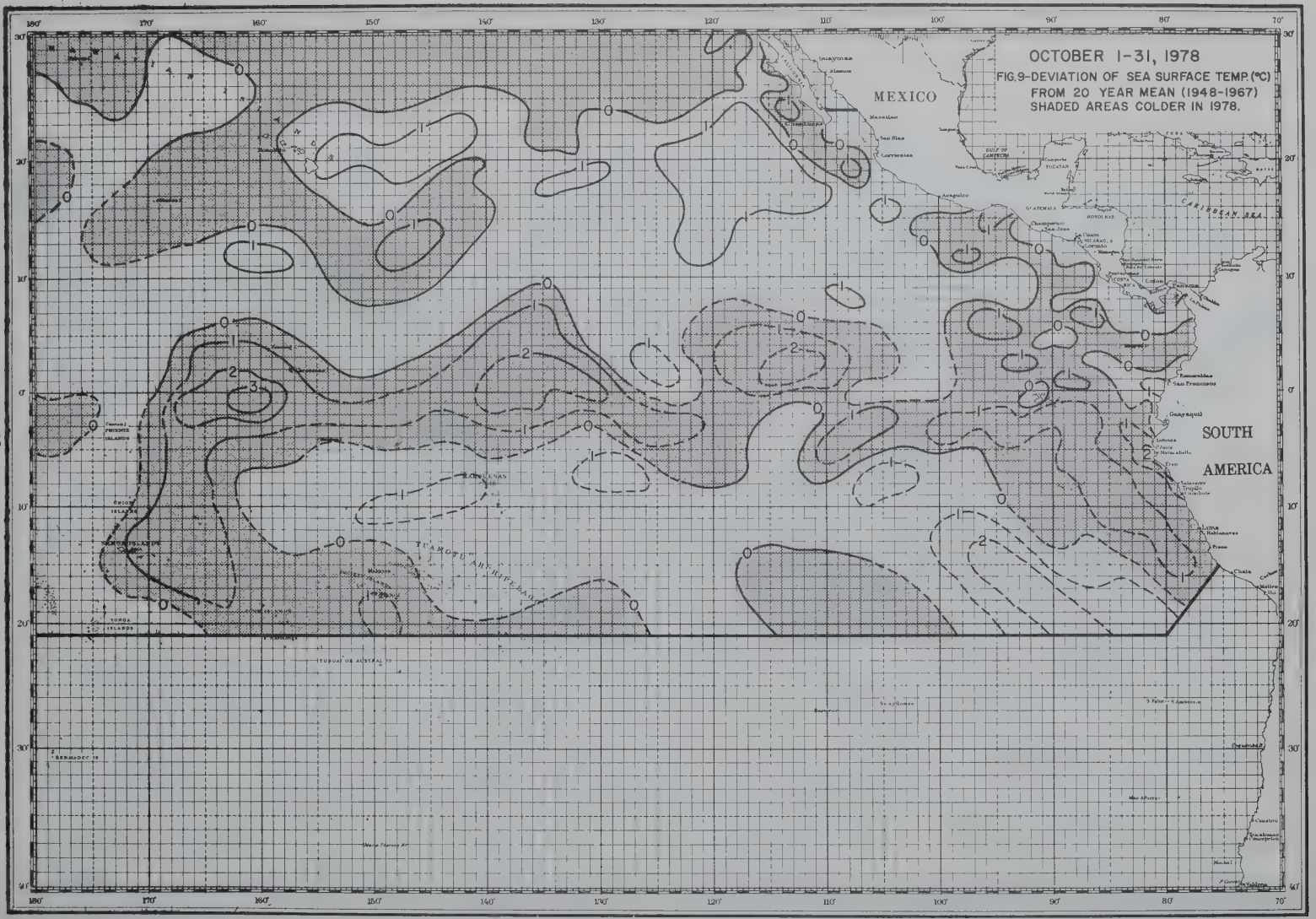
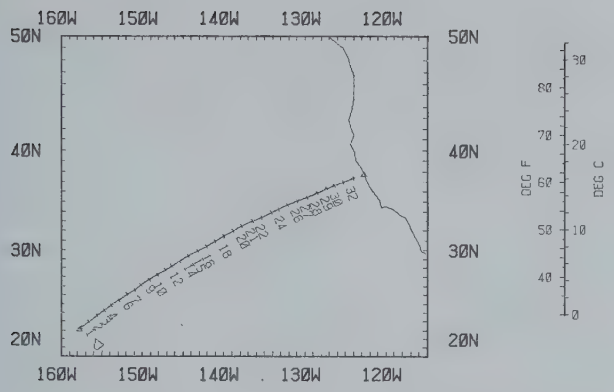

OCTOBER 1-31, 1978
FIG.9-DEVIATION OF SEA SURFACE TEMP.(°C)
FROM 20 YEAR MEAN (1948-1967)
SHADED AREAS COLDER IN 1978.
MEXICO
SOUTH
AMERICA
CARIBBEAN SEA
TUAMOTU ARCHIPELAGO
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
40°

FIGURE 10



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VOYAGE 304
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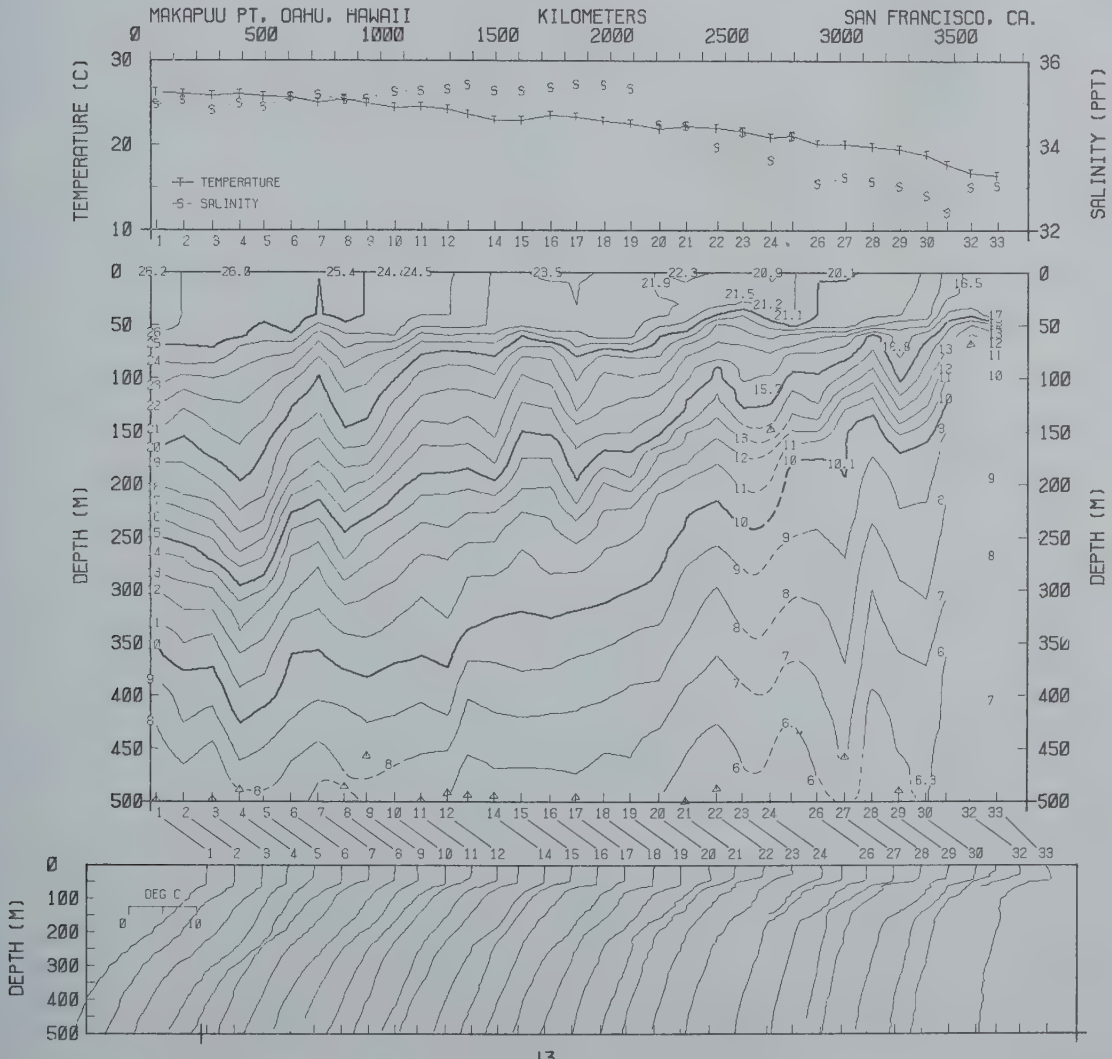
NOAA-NMFS PEG MONTEREY, CA.



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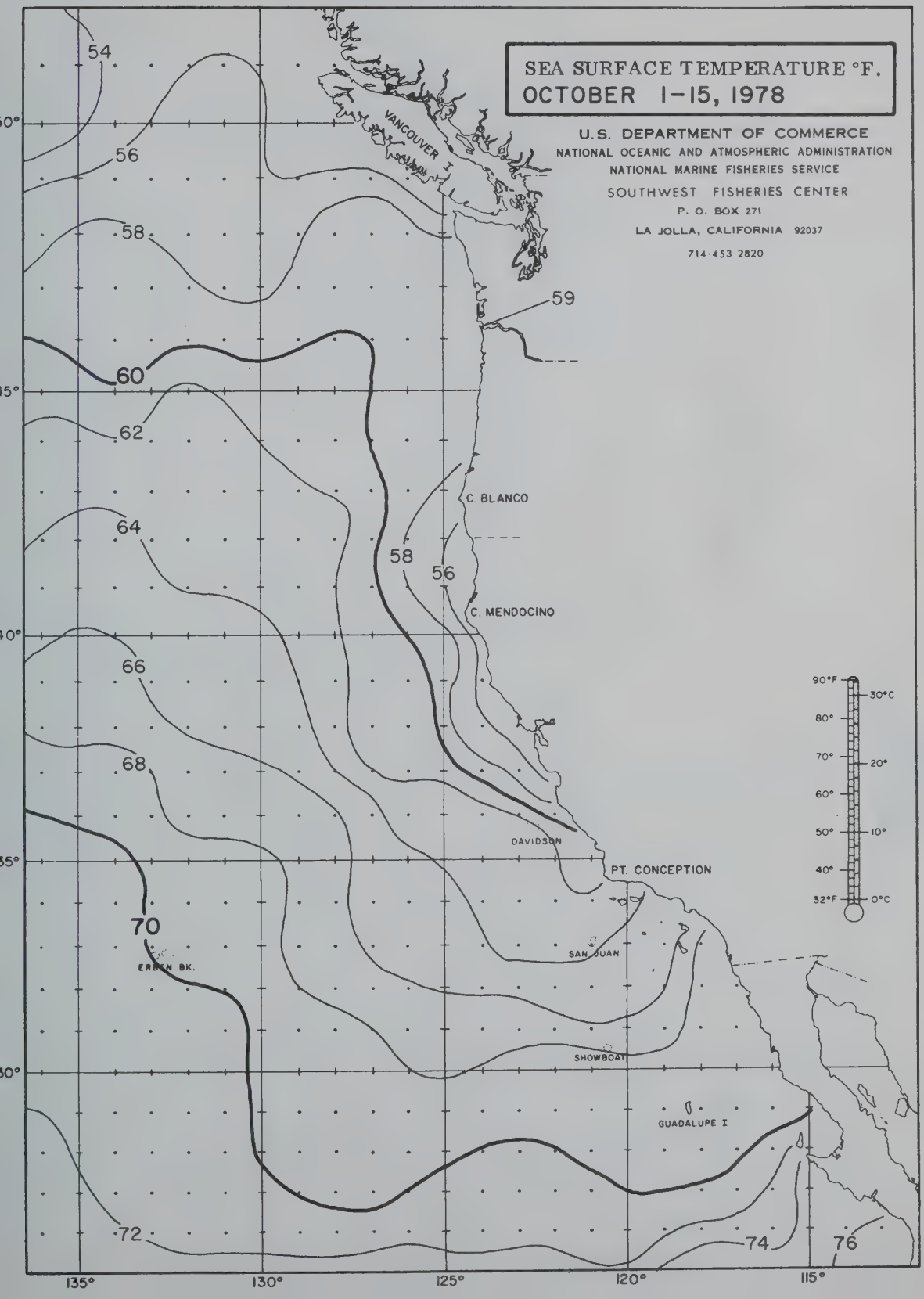

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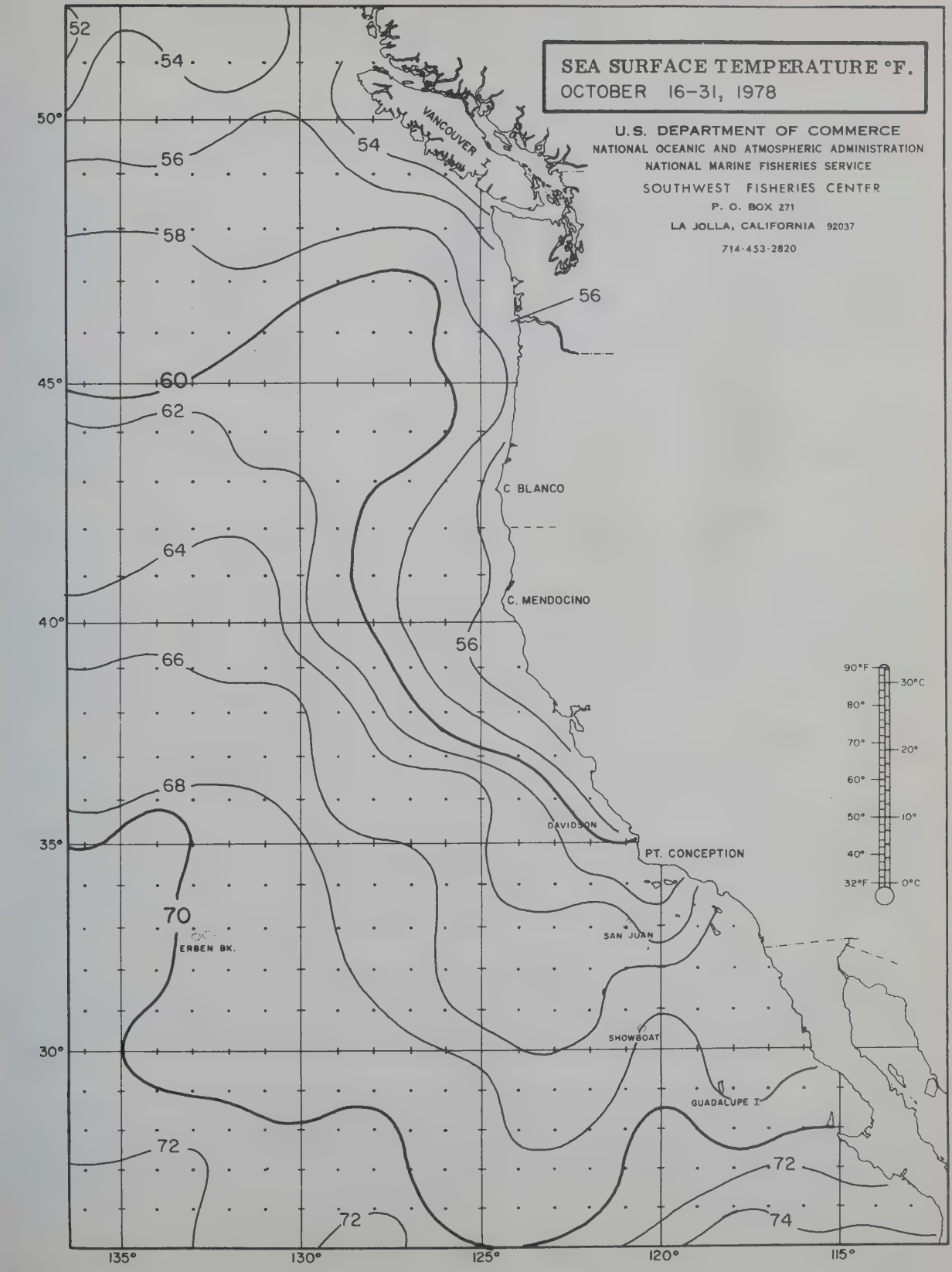


U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
La Jolla, California 92038

Bulletin No. 78-7

ROUGH SEAS HAMPER FISHING EFFORTS OFF CENTRAL CALIFORNIA AND PACIFIC NORTHWEST

Rough seas and strong winds continued to hamper fishing efforts in the Monterey-San Francisco and Newport-Westport areas where most of the albacore catches along the U.S. west coast were made during the last 2 weeks of September.

The majority of the jigboats and baitboats were in central California waters and ports during September 14-30. From September 14-19, many of the boats were in port because of rough seas and only on September 20 did boats begin to leave in numbers for the fishing grounds near the Guide and Pioneer Seamounts where good jigboat catches of 100-150 fish/boat/day were made on September 5-8. Because of the high winds, the surface water temperatures nearshore had decreased and boats moved offshore to approximately 50-60 miles west of the seamounts. Baitboats in this area were able to record scores of 200-400 fish per day on September 22-24; and jigboats, with the exception of a few 200 fish catches, had scores of generally less than 40 fish a day. Subsequently, catches also decreased for baitboats and on September 28 winds increased forcing most of the boats to return to port. A few baitboats again left for the fishing grounds on September 29 and moved toward the Morro Bay area. Albacore landed by the baitboats during this period were mainly 15-20 pounds (6.8-9.1 kg) while the jigboat catches were on mixed-size fish. Since catches have been poor for jigboat fishermen, some of them have ended their fishing season; however, fishermen on baitboats are anticipating good fishing off central California.

The area less than 80 miles offshore between Newport, Oregon and Westport, Washington, meanwhile, provided some good jigboat catches of 200-370 fish in spots. But, seas have been rough and scores were mainly 30-70 fish/boat/day as less than 200 boats were estimated to be in this location. Fish caught here were predominantly 11-15 pounds (5.0-6.8 kg). Sportboats out of Westport did very well and averaged about 6 fish/passenger during the third week of September.

In other areas, little fishing effort was expended and fishing was poor. A few jigboats near the 60-Mile Bank off San Diego averaged only 5-10 fish/day on fish of 24-25 pounds (10.9-11.4 kg). San Diego sportboats also reported slow fishing and ended their albacore season during the last week of September.

The baitboat Linda on charter to the American Fishermen's Research Foundation (AFRF) and working cooperatively with the NMFS La Jolla Laboratory to conduct albacore tagging for migration and special albacore growth studies, completed charter operations on September 19. NMFS technicians and crew aboard the Linda tagged 1,900 albacore during the charter. The tagged fish were also injected with a small dose of the antibiotic tetracycline which puts a "mark" on bone when examined microscopically under ultra-violet light. Information obtained from injected fish that are recovered is being used in studies being conducted at the La Jolla Laboratory to evaluate methods for determining albacore growth. Fishermen are alerted to be on the lookout for the tetracycline-injected fish which are tagged with red "spaghetti-dart" tags. A $50.00 reward is being paid by the NMFS to fishermen that recover the red-tagged fish and return them to the La Jolla Laboratory. A total of 23 recoveries has been made from the 1,900 fish released by the Linda this year.

Albacore landings for the 1978 fishing season at the end of September are estimated to be approximately 15,000 tons. This is almost double the amount of fish that had been landed by the end of September in 1977, but 2,000 to 8,000 tons less than the amount landed by the end of September during the years of 1973 to 1976.

During the last half of September low pressure centers persisted in the Gulf of Alaska most of the time. Several times during this period weather fronts intensified in the Gulf of Alaska and moved across the U.S. and Canadian coasts north of 40°N accompanied by high winds and very rough seas. These late summer storms had an adverse effect on fishing along the west coast, particularly north of Monterey Bay. Periodically, the subtropical high pressure system pushed eastward onto the coast between Cape Blanco and Monterey Bay. During these periods fishing weather improved markedly with lower winds and seas off central California where earlier in the season high winds and rough seas had made fishing very difficult. South of Point Arguello fishing weather did not change much during September, and the north to south shifting of the subtropical high pressure ridge caused minor changes in ocean mixing and amount of coastal upwelling from Cape Blanco to Point Arguello.

The sea surface temperature (SST) pattern from September 15-30 (see chart) was typical for September except along the coast north of 42°N where SST's were 2 to 4°F (1.1-2.2°C) above normal. South of Cape Mendocino SST's within 100 to 150 miles of the coast were 1 to 2°F (0.6-1.1°C) below normal, especially where SST's dropped from 60°F (15.6°C) to 56°F (13.3°C) over a short distance off Cape Mendocino and east of Davidson Seamount. SST's were more than 2°F (1.1°C) below normal off the coast of Baja California south of 28°N also. However, south of Erben Bank and San Juan Seamount, SST's were 1 to 2°F (0.6-1.1°C) above normal due primarily to strong surface heating and light winds after September 20.

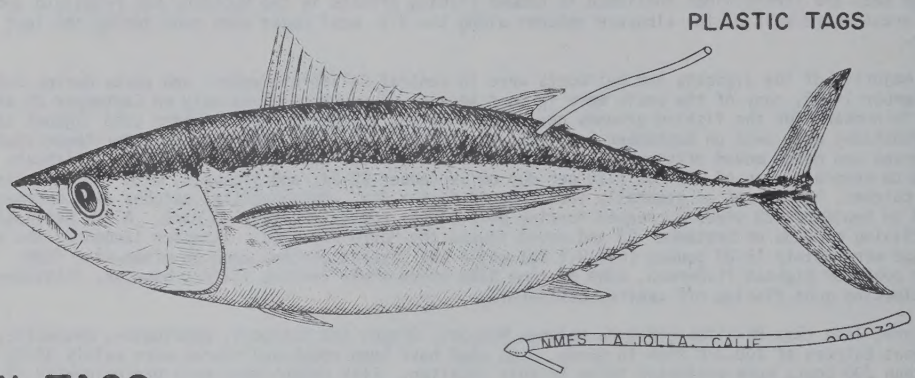
The National Weather Service Long Range Prediction Group predicts for October 1-15, 1978 some increased northerly winds along the U.S. west coast with occasional frontal passages into Washington, Oregon and central California. The weather systems moving onto the coast are not expected to be more frequent or more intense than during the last half of September. Most of the main storm centers will be in the Gulf of Alaska. The center of the high pressure system is predicted to be near 35°N, 140°W with periodic movement of high pressure onto the west coast near 40°N following frontal passages. Southern California coastal regions are expected to experience above normal air temperatures which will result in SST's slightly below normal along the California coast and SST's above normal more than 100 miles offshore and south of 37°N.

Staff, Albacore Fisheries Program
R. Michael Laurs, Leader

October 2, 1978

$ REWARD $

FOR ALBACORE TUNA TAGS



YELLOW TAGS

THE NATIONAL MARINE FISHERIES SERVICE WILL PAY $ 2.00 FOR EACH YELLOW TAG RECOVERED. (NO NEED TO RETURN FISH)

RECORD:

- ▶ WHERE
- ▶ WHEN
- ▶ HOW

} *FISH WAS CAUGHT*

- ▶ LENGTH OF FISH (TIP OF LOWER JAW TO FORK OF TAIL)

FORWARD TO NMFS ADDRESS ON TAG

RED TAGS

THE NATIONAL MARINE FISHERIES SERVICE WILL PAY $ 50.00 FOR EACH RED TAG & FISH RETURNED. (FISH WITH TAG INTACT MUST BE RETURNED

RECORD:

- ▶ WHERE
- ▶ WHEN
- ▶ HOW

} *FISH WAS CAUGHT*

- ▶ LENGTH OF FISH (TIP OF LOWER JAW TO FORK OF TAIL)

NOTIFY NMFS P.O. BOX 271, LA JOLLA, CA. TEL. (714) 453-2820

THE AMERICAN FISHERMEN'S RESEARCH FOUNDATION WILL AWARD CASH PRIZES FOR YELLOW & RED TAG NUMBERS DRAWN IN AN ANNUAL LOTTERY.

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
La Jolla, California 92038

Bulletin No. 78-8

ALBACORE FISHING SPOTTY

During the first half of October albacore fishing was generally restricted to the areas (1) between the Davidson and Pioneer Seamounts off central California, (2) between Newport, Oregon and Westport, Washington, and (3) between the 295 fathom spot and "dumping grounds" southwest of San Diego. However, for the most part, fishing was spotty in all of these areas. For example, jigboats operating in the vicinity of the Davidson Seamount and the Pioneer Seamount reported scores of 150 fish or more on a few days, but on most days catches were from about 5-50 fish. Large fish weighing 19-22 pounds (8.6-10.0 kg) predominated in the catches with most catches being made from waters with surface temperatures of approximately 61-63°F (16.1-17.2°C). Baitboats, meanwhile, had some days of very good fishing about 50-60 miles west of Monterey where a large group of baitboats is reported to be working. A number of baitboats are reported to have made catches of 5 tons or more per day during the second week of October. Fishermen report that sonar and depth sounder observations indicate a large body of fish is located in the area centered about 50-60 miles off Monterey, but that on some days the fish remain deep and cannot be enticed to come to the surface.

A few boats continued to fish between Newport and Westport in early October where jigboat scores generally averaged from 40-80 fish/day/boat with high catches being 100-200 fish a day. Fishing, however, was scattered and very spotty on albacore weighing 10-15 pounds (4.5-6.8 kg). By mid-October, catches had decreased off the Cascade Head-Tillamook area, but spotty fishing continued off the Columbia River and south of Westport. For example, a baitboat returning to port near the end of the second week in October is reported to have caught 6 tons of albacore on a single stop off the mouth of the Columbia River, using only three scoops of bait before running out of bait. The vessel reported that sonar readings showed that there was a relatively large body of fish in the vicinity where it was fishing.

Catches off San Diego increased during the second week of October on both commercial and sportboats fishing near the 295 fathom spot and the "dumping grounds." Commercial boats using rod and reel and baitfishing averaged 40-60 fish/day/boat while sportboats had catches of about 1-5 fish/day/passenger. These fish are averaging 28-29 pounds (12.7-13.2 kg) and surface water temperatures in the area were 66-68°F (18.9-20.0°C). Surface signs indicate that there is a large body of fish in the area off San Diego, but fish are not biting well.

Albacore fishery scientists at the NMFS Southwest Fisheries Center in La Jolla have concluded in recent years that there are at least two groups of albacore that enter the albacore fishery off the west coast of North America with the fish entering north of about Cape Mendocino being a separate group from those entering to the south. The two groups of fish follow different migration patterns with the "northern" group migrating back and forth between the eastern Pacific off the Pacific Northwest and the western Pacific where they are also harvested by the Japanese livebait and longline fisheries. At this time it is not known where the "southern" group migrate to after leaving the west coast, except that it probably does not migrate all the way across the ocean to the western Pacific.

To obtain information on the migration patterns of the "southern" group of albacore as fish leave the west coast, four jigboats have been chartered by the American Fishermen's Research Foundation (AFRF) and will work cooperatively with the NMFS La Jolla laboratory. The jig vessels Mangoe, New Dawn, Peppina, and Vivian M departed Moss Landing on October 16 for a 31-day charter cruise to attempt to locate schools of albacore as they leave the coast and obtain information on the size of the schools, the size of the fish in the schools, and fishing potential. In addition, they will conduct albacore tagging operations and make oceanographic observations. The vessels will work the general area west of Monterey out to about 135°W and southward to about Guadalupe Island. The vessels will report their findings to the Western Fishboat Owners radio station WHG on weekdays at 0930 on single-side band Channel 8A.

During the first half of October weather and ocean conditions were most favorable for fishing south of Cape Mendocino and north of 45°N. From Cape Mendocino to north of Cape Blanco sea conditions and weather were quite variable during the first 10 days of October. In this area surface winds and seas were fairly light except during four successive weather front passages. The most intense frontal passage occurred from October 9 to 10. After October 10 a high pressure system moved eastward over Washington and Oregon. The weather was good but surface winds strengthened and seas were rough out to 300 miles from the coast between 40°N to 45°N. Although weather fronts moved through the Gulf of Alaska over British Columbia after October 10, fishing weather remained very rough between Cape Blanco and Cape Mendocino where northerly surface winds were strong.

The sea surface temperature (SST) pattern from October 1-15 (see chart) was similar to the SST's during the last half of September. From 45°N to Vancouver Island, SST's were more than 2°F (1.1°C) above normal resulting from air-sea relationships caused by the high atmospheric pressure system over Washington and Oregon. From Cape Blanco to Cape Mendocino SST's dropped to slightly below normal due to strong surface winds and coastal upwelling. From San Francisco Bay to San Juan Seamount, SST's were 1-2°F (0.6-1.1°C) below normal along the coast where upwelling kept SST's below 60°F (15.6°C). South of 33°N SST's were above normal over most of the southern fishing grounds.

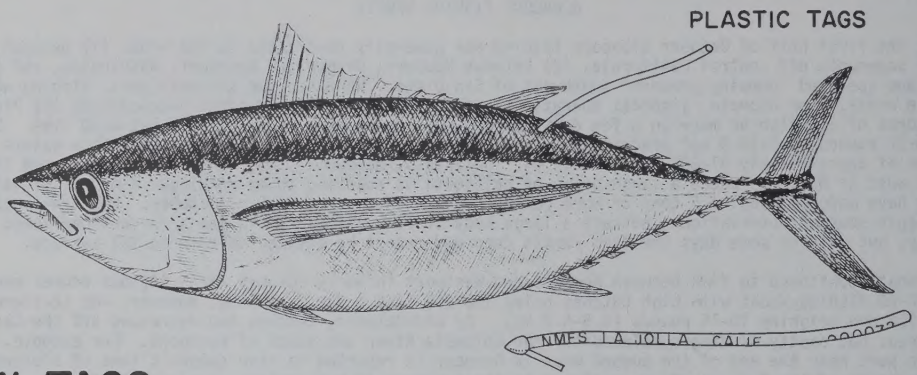
The National Weather Service Long Range Prediction Group indicates that no major changes in location and intensity of the major pressure systems (the Aleutian low and eastern Pacific high) are expected before the end of October. However, the passage of several weather fronts with increased surface winds and rough seas, as far south as central California, can be expected especially after October 20. Between frontal passages fishing weather will be fair to good.

Staff, Albacore Fisheries Program
R. Michael Laurs, Leader

October 17, 1978

$ REWARD $

FOR ALBACORE TUNA TAGS



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